

DOCKET NO.: MSFT-0579/167505 02
Application No.: 09/934,071
Office Action Dated: June 15, 2004

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Christopher B. Weare

Confirmation No.: 7351

Application No.: 09/934,071

Group Art Unit: 2177

Filing Date: August 20, 2001

Examiner: Debbie M. Le

**For: SYSTEM AND METHOD FOR PROVIDING ADAPTIVE MEDIA
PROPERTY CLASSIFICATION**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION PURSUANT TO 37 C.F.R. 1.131

I, Christopher B. Weare, declare and say that:

1. I am the sole inventor of the invention described and claimed in U.S. Patent Application No. 09/934,071 (the above-identified application, hereinafter "the '071 application"), which was filed with the United States Patent and Trademark Office on August 20, 2001.

2. I understand that U.S. Provisional Application No. 60/216,423, filed on July 6, 2000, is the priority application to which the '071 application claims priority.

3. As sole inventor, I am familiar with the '071 application and the associated rejections alleged in the outstanding Official Action, dated June 15, 2004. I am also familiar with the references cited by the United States Patent and Trademark Office in connection with the outstanding Official Action, including U.S. Patent Application Publication No. US 2003/0014407 A1 (hereinafter "Blatter") and U.S. Patent No. 5,918,223 (hereinafter "Blum").

4. In particular, I understand that claims 1-15, 18-35 and 38-40 of the above-identified patent application were rejected under 35 U.S.C § 103(a) over Blatter and Blum.

5. I understand that Blatter was filed on April 11, 2002 and, as far as I am aware, is still pending before the U.S. Patent & Trademark Office.

6. I understand that Blatter claims priority to U.S. Provisional Application No. 60/282,885, filed on April 11, 2001, and while I have not examined the content of U.S. Provisional Application No. 60/282,885, I understand that April 11, 2001 is thus the earliest possible effective date to which the Blatter reference may be entitled.

7. In accordance with 37 CFR § 1.131, as inventor of the subject matter of the rejected claims, and without conceding the propriety of the outstanding rejections, I hereby declare that I invented the subject matter of the rejected claims prior to April 11, 2001, the earliest possible effective date of the Blatter reference, and thus I am the prior inventor as referred to in that Section.

8. In particular, I am the prior inventor because I conceived of the invention represented by the rejected claims prior to April 11, 2001. Soon after my conception, with due diligence, on July 6, 2000, I constructively reduced the invention to practice by timely filing a provisional application with the United States Patent & Trademark Office to secure my patent rights.

9. As evidence of my prior conception, I made mention of the invention of the '071 application in a notebook (copies of the relevant notebook pages attached hereto) on May 25, 2000. The notebook pages were then signed and witnessed by a third party, Michael J. Carreno, currently a Microsoft employee.

10. Accordingly, it is my belief that the copies of the relevant pages from my notebook attached hereto evidence my possession of the invention described in the '071 application prior to April 11, 2001, thereby removing Blatter as an applicable reference.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information or belief are believed to be true; and further that these statements were made with the knowledge that willful false

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PATENT

statements and the like so made are punishable by fine or by imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application, any patent issuing there upon, or any patent to which this verified statement is directed.

Date: 8/10/2004


Christopher B. Weare

./driveosp <add job> <entropy clip> <hum>

5/11/00 re:mp3 Conference Call
why two months?

QA with the dB

areas to cover

1. mp3.com so big

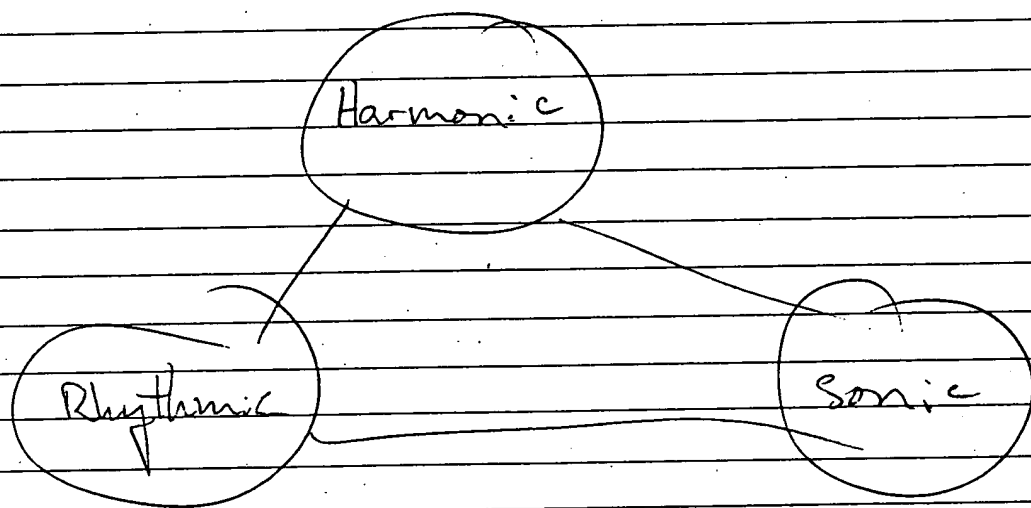
2. no humans! Want turnkey

A human \rightarrow upack of a d

05-12-00

5/15/00

Three components of the auto-analysis

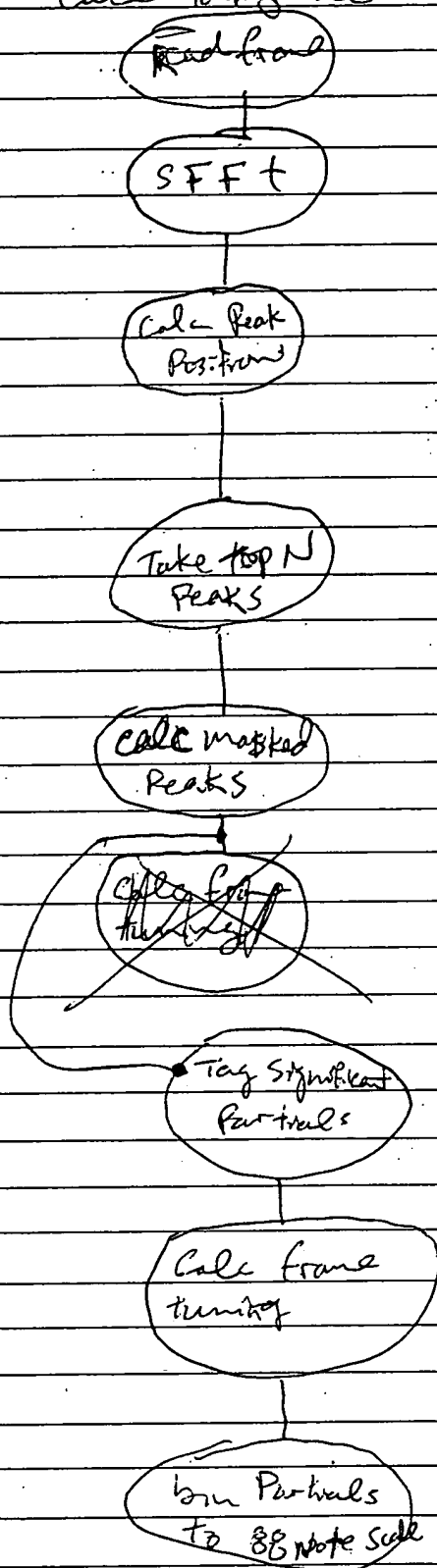


Harmonic is the partial description. partials are E from the signal via FFT. ~~the~~ The partial amplitudes are altered via a vis Fletcher-Munson curves as well as they are then assigned to notes.

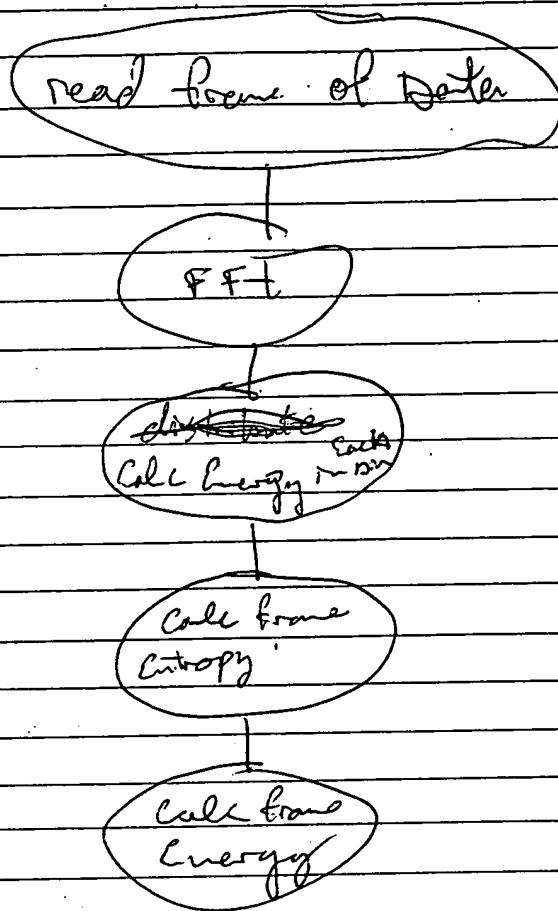
Rhythmic ^{component} ~~Information~~ *Contains tempo and note on

Sonic contains the critical band energy on a Fra frame basis

Calculating the harmonic components



calculating the sonic components



5/16/00

use neural networks to map parameters to ground parameters

using newff with 30 hidden layers and 1 output layer we get an std for w of 11860 for 4760 elements. Levenberg suggest 48 parameters. run again with 50 parameters $R = 0.67$

for Density we get a 10.4 std with the above topology. $R = 0.593$ it seems we need more 10's & 1's. network is biased towards ~50~60

5/17/00

Train network on Weight & Density of first 600 alt-rock songs. $R = 0.74$ for data run 601-701 then test yielding an R of 0.946! This shows excellent generalization

Train network for Heavy metal for 30 epochs we get $R = .714$ for ~~density~~ weight and $R = 0.342$ for Density

$R = 0.633$ for weight.

Train network with 100 hidden nodes:

$R = 0.804$ for weight

$R = 0.693$ for density

Check generalization:

$R = 0.883$ for weight

$R = 0.438$ for density

Poor Generalization.

add too many neurons and the shit gets poor

Train one nn on all songs with
as an input to the net.

$R = 0.647$ for density

$R = 0.217$ for weight

} 10 training Eps

ed std = 9.8333

ew std = 11.1602

5/18/00

Create new data set with:

	1	2	3	4	5	6	7
608	Genre ID	G Density	G weight	C Density	Density Std	Weight	ew
	1-22	10-100	10-100	1.4-5.3	0.55-11.03	0.58-8.3	0.53

after 20 training Epochs $R = .532$ for density
std = 11.58

after 40 training Epochs $R = .614$ for density
std = 11.22

generalization of net:

$R = 0.501$ for density

std = 10.1 → successful Generalization

continue training

after 60 Epochs we get $R = .623$
11.12 std

Boo 4.

Generalization:

std = 10.07

$R = .504$

win Network for HipHop/Rap after 20 Epochs:

$R = 0.589$ for Density

$R = 0.633$ for weight

win network with 100 hidden nodes:

$R = 0.804$ for weight

$R = 0.693$ for Density

Check generalization:

$R = 0.883$ for weight

$R = 0.438$ for Density

Poor Generalization.

add too many neurons and the shit gets poopzy!

Train one nn on all songs with genre number as an input to the net.

$R = 0.647$ for Density

$R = 0.717$ for weight

10 training Epochs

ed std = 9.8333

ew std = 11.1602

8/00

create users data set with:

1	2	3	4	5	6	7	8	9	10
enc ID	G Density	G weight	C Density	Density Std	C weight	C weight Std	En	En Std	Temp
-22	10-100	10-100	1.4-5.3	0.55-11.03	0.58-3.3	0.53-7.17			
							0.53-0.93		
							0.56-0.94		1.34-2.5

after 20 training Epochs $R = .582$ for Density
std = 11.58

after 40 training Epochs $R = .614$ for Density
std = 11.22

generalization of net:

$R = 0.501$ for Density

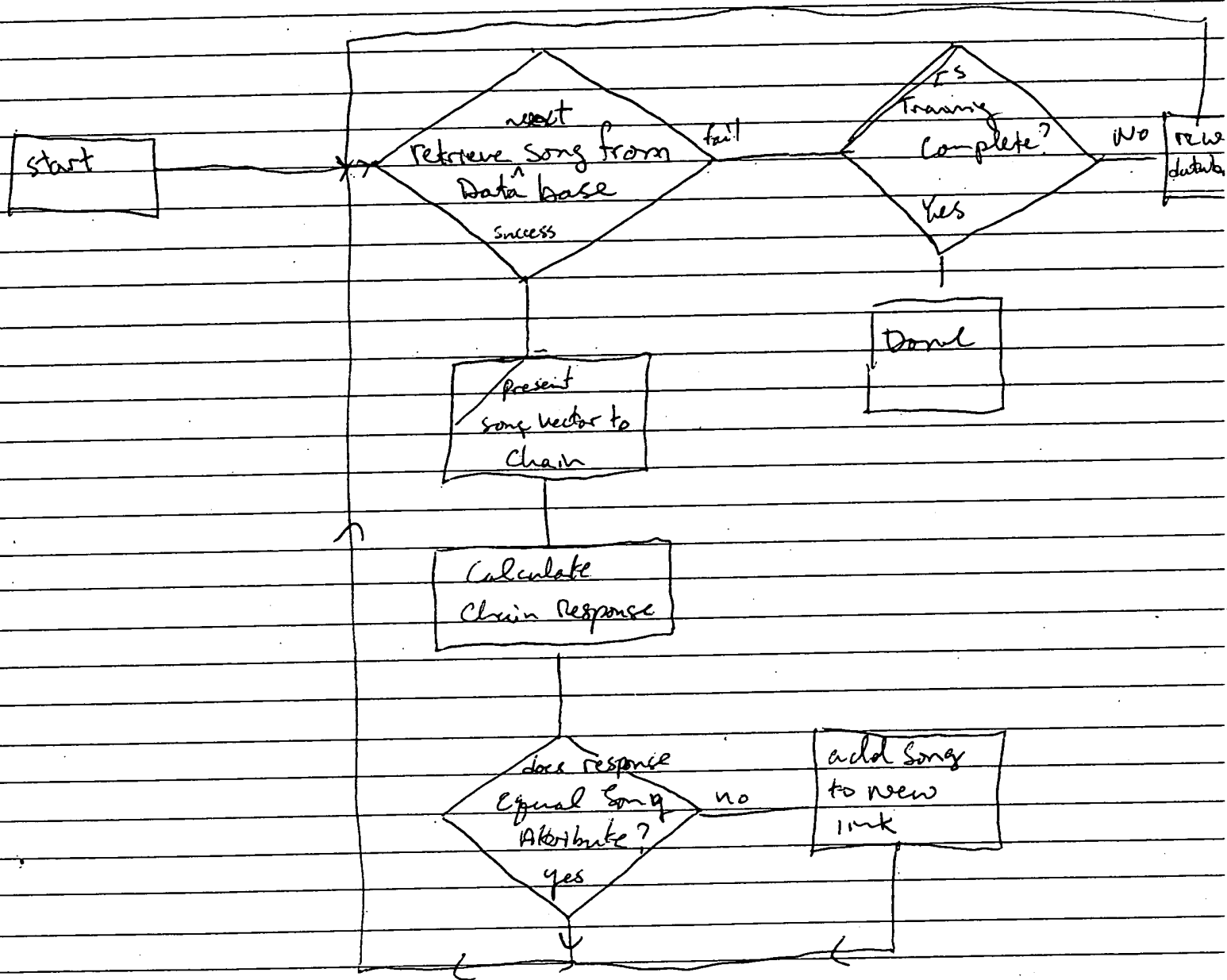
std = 10.1 → successful Generalization

continue training

Done

5/26/00

Classification Chain Algorithm



mike weiss @ 877-737-5669 6198
194-10
203-80
357 80-30
689 70-10

4:00 Patent meeting

5/31/00

run Classification Chain on 400 inputs with
one class over 3 nearest neighbors

correct: 165 (41.25%) > 89.08%
off by 1: 145 (36.25%)
off by 2: 32 (8.00%)
off by 3: 5 (1.25%)
off by 4: 1 (0.25%)
tagged for QA 52 (13.00%)

run classification on 400 inputs with 2K cells
one class over 5 nearest neighbors

correct 171 (42.75%) > 91.16%
off by 1 159 (39.75%)
off by 2 27 (6.75%)
off by 3 4 (1.00%)
off by 5 1 (0.25%)
tagged for QA 38 (9.50%)

Change Std Error from 15 to 14

Correct 167 (41.75%) > 91.5%
off by 1 156 (39.00%)
off by 2 26 (6.50%) > 8.5%
off by 3 4 (1.00%)
Tagged for QA 47 (11.75%)

run classification chain on 400 inputs with 2K cells
one class over 3 nearest neighbors

correct: 165 (42.41%) > 89.08%
 off by 1: 145 (41.67%)
 off by 2: 32 (9.20%)
 off by 3: 5 (1.44%)
 off by 4: 1 (0.29%)
 tagged for QA 52 (13%)

run classification on 400 inputs with 2K cells
one class over 5 nearest neighbors

correct 171 (47.24%) > 91.16%
 off by 1 159 (43.92%)
 off by 2 27 (7.46%)
 off by 3 4 (1.10%)
 off by 5 1 (0.28%)
 tagged for QA 38 (9.5%)

Change 8th Error from 15 to 14

Correct 167 (47.31%) > 91.5%
 off by 1 156 (44.19%)
 off by 2 26 (7.37%) > 8.5%
 off by 3 4 (1.13%)
 Tagged for QA 47 (11.75%)

6/2/00 Human aided Pitch Classification

- Play Song to groover
- Groover finds Hook
- Groover Hums Hook
- Pitch Class of Hook is extracted via DSF
- information is Encoded ~~then~~ in midi format

Michael J. Carreno
Michael J. Carreno

6/5/00

1 2 3 4 5 6 7
Key; Genre ID; Region; GD, GW, CD, C, GD, C, EB1 -

⇒ dynamic Time Warping

integration of Processed data into product

1. load training data
load decision tree
load data to be processed
Process data
write data to disk

sv-key, Density, wci

2/00 Human aided Pitch Classification

- Play Same to groover
- Groover finds Hook
- Groover Hums Hook
- Pitch Class of Hook is extracted via DSP
- information is Encoded ~~the~~ in midi format

Michael J Carreno 6/2/2000
~~Michael Carreno~~

5/00 1 2 3 4 5 6 7 8 30 31 54
Key, Genre ID, Region, GD, GW, CD, C2, EB1 - EB24, EBS1 - EBS24

→ dynamic Time Warping

integration of Processed data into production

1. load training data
load decision tree
load data to be processed
Process data
write data to disk

sv-key, Density, weight-